REMARKS

Reconsideration of this Application is respectfully requested. Upon entry of the foregoing amendments, claims 2-5, 7-10, and 12-14 are pending in the application, with claim 13 being the independent claim. Claims 1, 6 and 11 have been canceled without prejudice or disclaimer. Support for the subject matter of the amended claims is contained in the application as originally filed. Because the foregoing changes introduce no new matter, their entry is respectfully requested.

Based on the above Amendment and the following Remarks, Applicant respectfully requests that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

Rejections under 35 U.S.C. § 102 and 103

Claims 1-3 and 8-11

The Examiner has rejected claims 1-3 and 8-11 under 35 U.S.C. § 102 as being anticipated by Japanese Patent No. 63-236267 to Kadama ("the Kadama patent"). Applicant respectfully submits that the rejection of independent claim 1 and dependent claim 11 over the Kadama patent has been rendered moot by the cancellation thereof.

Dependent claims 2, 3 and 8-10 have been amended and now depend from independent claim 13. Applicant submits that dependent claims 2, 3 and 8-10 are allowable over the cited art for at least the same reasons as independent claim 13 noted below.

Claims 1-13

The Examiner has rejected claims 1-13 under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 6,296,962 to Minh ("the Minh patent") and U.S. Patent No. 3,811,874 to Caule et al. ("the Caule patent"). The Minh and Caule patents, taken individually or combined, fail to teach or suggest the solid oxide fuel cell system as called for by amended claim 13.

As noted by the Examiner, Minh is directed to a solid oxide fuel cell stack including a plurality of planar solid oxide fuel cells juxtaposed to one another and separated by respective interconnect plates made of heat and oxidation resistant alloy. As also acknowledged by the Examiner, Minh does not teach the composition of the alloy in the present invention or that the interconnect plate has a surface layer of aluminum oxide. Instead, it is proposed that the oxidation resistant metal may be, for example, nickel chromium or iron chromium based. It is also made clear throughout Minh that the interconnect plate is required to be in direct electrical contact with adjacent fuel cells so that, as current is established in one cell, the interconnect plate can carry the current into the adjacent cell. *See*, e.g., the abstract, column 1, lines 19 to 21 and 56 to 67, column 2, lines 63 to 65 and column 6, lines 1 to 6. It is clear from this that the interconnect plate cannot be electrically insulating and/or cannot include an electrically insulating surface layer.

The Examiner attempts to overcome the deficiencies of Minh in anticipating the invention by reading it in view of Caule on the basis that "the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because the artisan would be motivated to use the oxidation-resistant alloy of Caule et al. as the material of the oxidation-resistant interconnect plate of Minh" (page 4, lines 1 to 4). The Examiner argues that the artisan would be motivated to make this change to the Minh interconnect material because the Caule alloy has a "low cost" and exhibits "improved resistance to corrosion in ambient environments without the disadvantage of extensive red rust rundown". However, the Caule alloy was first proposed in about 1968 to replace "mild steel and specially designed low alloy steels" because of their extensive production of red rust rundown" (*see* the Caule patent, column 1, lines 30 to 34). In contrast to this, the Minh proposal to use nickel chromium or iron chromium based oxidation resistant metals was made some 30 years later, in 1999, and was specifically made for use in solid oxide fuel cells. There is no suggestion that the alloys proposed in Minh suffer the problems described of the prior art alloys in Caule and certainly no reason for the skilled artisan to adopt the Caule alloys given the satisfactory oxidation resistance of the Minh alloys.

There is also another very good reason why the skilled artisan would not simply replace the electrically conductive alloys of Minh with the alloys of Caule, particularly the aluminum alloys. As stated as column 2, lines 3 to 6, the alloy of Caule "is further characterised by having a tenacious, compact substantially colourless and adherent film, which film contains iron plus one of the group (A) elements" such as aluminum. As explained at column 3, lines 14 to 17, "in the case where aluminum is used, there is formed aluminum oxide and a complex of the type $FeO\text{-}Al_2O_3$". Al_2O_3 is an electrical insulator, while FeO is a semiconductor. At the highest levels of Al_2O_3, formed at the more elevated temperatures of exposure to air oxidation (see column 4, lines 9 to 13), the adherent oxide film will be almost completely electrically insulating, and the film can never be electrically conductive. This means that if a solid oxide fuel cell interconnect plate were formed from the alloy, the plate also could not be conductive. On the other hand, a fundamental requirement of the Minh interconnect plate is that it is electrically conductive to electrically connect adjacent fuel cells. Therefore, it would not be obvious to one of ordinary skill in the art to use the oxidation-resistant and electrically insulating alloy of Caule et al. as the material of the oxidation-resistant and electrically conductive interconnect plate of Minh.

Finally, possibly the Examiner will contemplate arguing that the invention as now claimed is obvious on the Kodama patent in view of the Minh patent. However, we consider that such an obviousness argument does not stand up for exactly the same reason as obviousness in the light of Minh and the Caule patent.

On page 5 of the Office Action, the Examiner argues that the formation of an alumina layer on the surface of the component of the Kadama patent would be expected when the component is used in a solid oxide environment. Assuming for the moment that the Examiner is correct, the Kodama material would not be suitable for use as the gas separator of the solid oxide fuel cell system of the Minh patent because Al_2O_3 is insulating and Minh requires the gas separator to provide an electrical connection between the cells.

For at least these reasons, Applicant respectfully submits that the Minh and Caule patents, taken individually or combined, do not anticipate or render obvious independent claim

13. Applicant submits that claims 2-5, 7-10, 12 and 14, which depend from claim 13, are allowable over the cited art for at least the same reasons noted above.

CONCLUSION

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicant believes that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided below.

The Director is hereby authorized to charge any underpayment of fees associated with this communication, including any necessary fees for extension of time or additional claims, and/or credit any overpayment to Deposit Account No. 50-2319 (Order No. 461124-00077; Docket No. A-71183/DJB/VEJ).

Prompt and favorable consideration of this Amendment and Response is respectfully requested.

Respectfully submitted,

DORSEY & WHITNEY LLP

Date: 10/22/2004

By: _____

Victor E. Johnson, Reg. No. 41,546
/for/ David J. Brezner, Reg. No. 24,774
Filed Under 37 C.F.R. § 1.34(a)

DORSEY & WHITNEY LLP
Four Embarcadero Center, Suite 3400
San Francisco, CA 94111-4187
Telephone: (415) 781-1989 Facsimile: (415) 398-3249